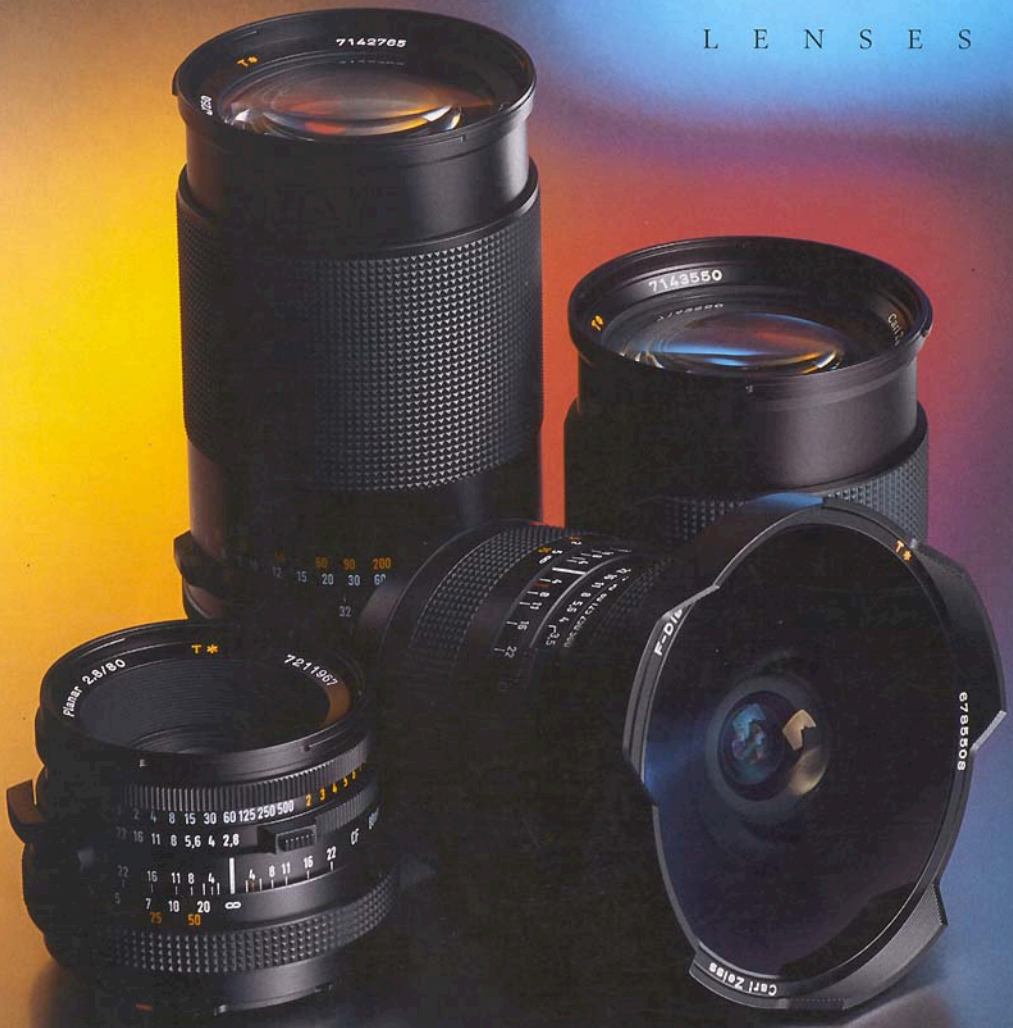
HASSELBLAD

LENSES



VISIT…

LENSES TO CREATE T

EVERY PHOTOGRAPHER strives for a high, even picture quality and confidence that all the various lenses used will provide identical colour reproduction.

This is precisely what the Hasselblad lenses are known for – after all, they are made by Carl Zeiss Company, Germany.

In 1846, Carl Zeiss started his own workshop for the construction of microscopes.

Dr Ernst Abbe developed the theory of the microscopic image and also formulated the sinus principle which also enabled the construction of greatly improved lenses for use in photography.

Around 1880 Otto Schott carried out systematic research into the composition of glass and he became the founder of modern glass technology.

Abbe's assistant Paul Rudolf calculated the first photographic lens with correction of both spherical and chromatic aberration, as well as astigmatism and coma. It was christened as the Zeiss Protar.

Later, in 1896, he also calculated the Zeiss Planar, a lens with an almost perfect correction of the cushion-effect.

The many years of calculations led to the development of the amazing Zeiss Tessar or "The Eagle's eye of Zeiss".

A lens intended for purposes other than photography was specially designed by the mathematician Gauss for use in astronomic telescopes. The lens corrected chromatic and spherical aberration perfectly, it was later re-calculated also to become an anastigmatic lens.

The nineteen-thirties saw the introduction of a newly developed technique which would no longer compel lens makers to reduce the number of glass/air interfaces in their lens designs. A very thin transparent layer, applied to the surfaces of a lens by means of vacuum deposition, and based on the phenomenon of interference of light rays, reduced lens reflection considerably. This enabled more light to pass through the lens and reduced a large degree of stray light which affected the image contrast.

Carl Zeiss scientists constantly keep up with the latest developments in both film and glass technology.

Today all lenses, after being ground and polished to perfection, receive a T* multi-coating, of as many as six layers, each only about 1/10.000 mm thick.

The coating increases the light transmission and reduce its contrast and colour saturation. This gives Hasselblad images the most brilliant highlights and the most beautiful shadow details.

The concern of Carl Zeiss does not stop with the lens elements. The components are assembled accurately into metal lens barrels that maintain the precise alignment even in rugged use.

Thanks to the availability of new kinds of glass, coupled with the use of computers, as well as T* multicoating, modern lenses for the Hasselblad have been improved so much that it would be entirely unjustified to compare them with their predecessors of 100 years ago.

In the Hasselblad CF lenses modern precision shutters are matched in diameter to each lens for greatest accuracy and efficiency at all shutter speeds and apertures. They also synchronise with electronic flash

HE ULTIMATE IMAGE

at all shutter speeds up to 1/500 sec. The lifetime of the modern shutter is 2-3 times longer than its predecessor.

The large rubberised focusing rings allow quick and accurate focusing. All lenses offer a choice of automatic or manual diaphragm stop down. The high speed FE-lenses without a shutter offer new ultimate optical characteristics.

Too many of us allow our horizons to be limited by tradition and habit. Photographers are no exception.

And while the lenses that make up the extensive Hasselblad range were each created to solve specific photographic problems, that should not prevent us from breaking new ground, from stretching the "rules" laid down by the catalogue descriptions. "Portrait" lenses come in many different guises. Our photographic horizons are only limited by our own imagination.

Altogether, there are 23 different lenses in the Hasselblad system, from 30 mm to 500 mm, even 1000 mm with the Converter 2XE. Whilst you certainly don't need to own every lens, you should be sure that you have a variety of focal lengths available.

Your photographic equipment is an extension of your personality. "Show me your camera bag and I'll tell you who you are."

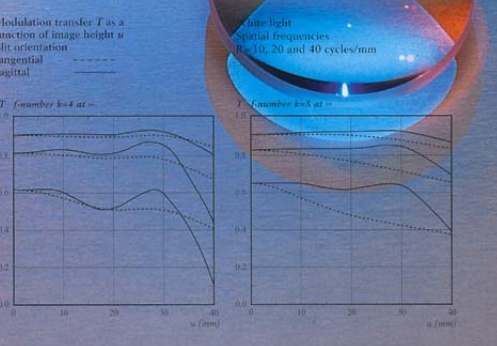
This brochure is also intended to stretch your horizons, to lead you into discovering a new side to the Hasselblad lenses – lenses to create the ultimate image.

HOW TO READ THE MTF DIAGRAMS

The ability of a lens to reproduce the contrasts in its subject can be expressed as a series of Modulation Transfer Function (MTF) curves. The modulation transfer T (the standardised variation in the quantity of light in light and dark areas of the frame) is measured as a function of the image height.

Modulation transfer (T) also depends on the altitude of the line pairs in relation to the radius from the point measured to the image centre. If the line pairs run in the same direction as the radius they are said to have a "sagittal" orientation; if they cross the radius at right angles, the orientation is "tangential". The difference in the T values for these two orientations is often considerable.

The MTF curves are presented with the image height (the distance to the image centre) entered on the horizontal axis, and the corresponding T value on the vertical axis. Both sagittal and tangential curves are presented, for both full aperture and a stopped-down lens and for 10, 20 and 40 lp/mm.



THESE DIAGRAMS ARE RELATED TO THE LENS SONNAR CF 1/4 180MM

DISTAGON CF f/3.5 30MM

A FULL-FRAME fish-eye lens covering the entire 2 1/4 x 2 1/4 (6 x 6cm) format, with no visible light or quality fall-off.

The lens captures surrounding subjects with corner-to-corner sharpness within a 180 degree field.

The excellent correction of this lens results in outstanding sharpness, even at maximum aperture.

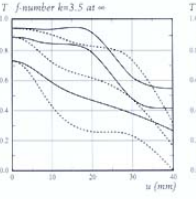
TECHNICAL SPECIFICATIONS

MAX. APERTURE	3.5
FOCAL LENGTH	30.6mm
DIAPHRAGM	3.5–22
ANGLE OF VIEW,	
DIAG./HORIZONTAL	180°/112°
NO. OF ELEMENTS	8 T*
FOCUSING RANGE	1 ft–∞ (0.3m)
WEIGHT	3 lbs 14 oz (1365g)
LENGTH	4 5/8 in (117,5mm)
FILTER	Ø 26[1]

[1] THE FILTER SET IS SUPPLIED WITH THE LENS.

MODULATION TRANSFER T AS A FUNCTION OF IMAGE HEIGHT u
SLIT ORIENTATION
TANGENTIAL ------
SAGITTAL ——

WHITE LIGHT
SPATIAL FREQUENCIES
R=10, 20 AND 40 CYCLES/MM



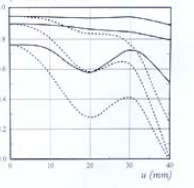


PHOTO CHIP SIMONS

THE OUTSTANDING IMAGE QUALITY opens new horizons to the creative photographer. Photographs taken with this lens produce remarkable coverage – even of small, narrow interiors.
In a portrait the background and the location become a real part of the image, whilst the person carefully composed in the center appears undistorted.
In contrast to "ordinary" fish-eye lenses that produce a circular image, the 30mm Distagon can create striking "full-frame" images without the distracting "fish-eye effect".

PHOTO DAVID A. ZISER

THE DISTAGON 40 MM (FLE) is light and small. Its special design allows extreme wide-angle photography to utilise the single lens reflex concept with the advantage of viewing the image on the focusing screen. It has become a favorite because of the large background coverage that identifies a location and makes it an important part of the image surrounding the main subject. It has become the "environment lens", being an alternative to the 38 mm Biogon lens on the 903SWC camera.

Distagon CF f/4 50mm (FLE)

In all wide-angle lenses for reflex cameras the distance between the rear lens element and the image plane is greater than the focal length. This applies also to the 50mm Distagon (FLE) lens.

In spite of this, its extraordinary technical features ensure that the 50 mm Distagon (FLE) lens has a remarkably good correction of all image aberrations.

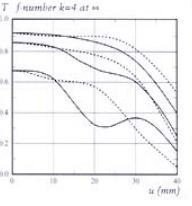
The floating lens element (FLE) design ensures good image quality right down to close-up shots. The four floating front elements are moved by means of a secondary focusing ring with four click stops. The following ranges are available: ∞ – 4m, 4 – 1.2m, 1.2 – 0.8m and 0.8 – 0.5m.

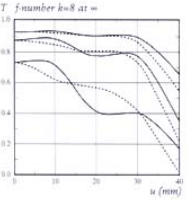
TECHNICAL SPECIFICATIONS

MAX. APERTURE	4
FOCAL LENGTH	52.0mm
DIAPHRAGM	4–32
ANGLE OF VIEW,	
DIAG./HORIZONTAL	75°/57°
NO. OF ELEMENTS	9 T*
FOCUSING RANGE	1 ft 7 in–∞ (0.5m)
WEIGHT	1 lb 12 oz (800g)
LENGTH	3 3/4 in (95mm)
FILTER	Ø 60

MODULATION TRANSFER T AS A FUNCTION OF IMAGE HEIGHT u
SLIT ORIENTATION
TANGENTIAL ------
SAGITTAL ——

WHITE LIGHT
SPATIAL FREQUENCIES
R=10, 20 AND 40 CYCLES/MM





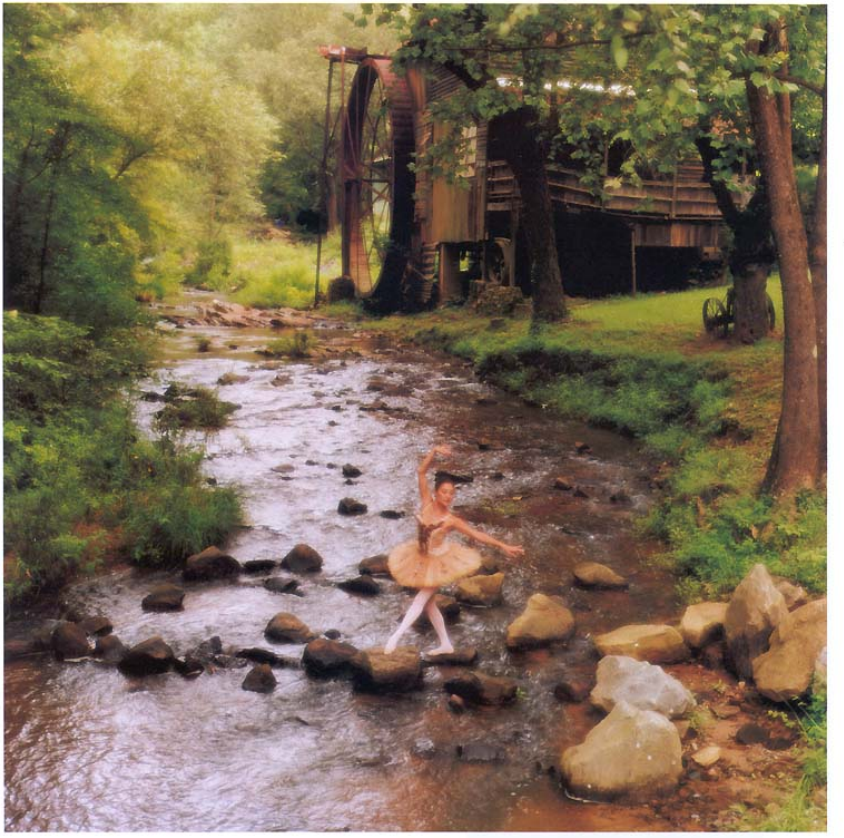


PHOTO DON BLAIR

DISTAGON 50 MM (FE) is primarily used for landscape and architectural photography, photography of interiors and for press photography. It's an all round wide-angle lens.
The 50 mm Distagon is light and compact with floating lens elements (FLE).

DISTAGON CF f/3.5 60MM

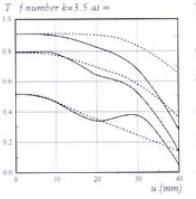
SPECIAL FEATURES of this lens are its compact design and relatively low weight. It is a good all-round wide-angle lens, but without a marked wide-angle effect. It can also be used as a standard lens, particularly when wide coverage is needed but only limited space is available.

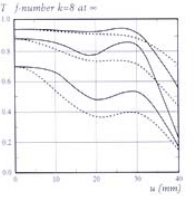
TECHNICAL SPECIFICATIONS

MAX. APERTURE	3.5mm
FOCAL LENGTH	60.2mm
DIAPHRAGM	3.5–22
ANGLE OF VIEW, DIAG./HORIZONTAL	66°/50°
NO. OF ELEMENTS	7 T*
FOCUSING RANGE	2 ft–∞ (0.6m)
WEIGHT	1 lb 8 oz (680g)
LENGTH	3 1/4 in (83mm)
FILTER	Ø 60

MODULATION TRANSFER T AS A FUNCTION OF IMAGE HEIGHT u
SLIT ORIENTATION
TANGENTIAL ------
SAGITTAL ——

WHITE LIGHT
SPATIAL FREQUENCIES
R=10, 20 AND 40 CYCLES/MM





PLANAR CF f/2.8 80MM

THIS PLANAR LENS is characterized by an extremly uniform edge-to-edge sharpness at all apertures, resulting from the excellent correction of all lens aberrations. As indicated by its name, the astigmatic flatness of the image field is outstanding.

The 80mm Planar is available with and without shutter enabling all Hasselblad SLR cameras to be used with this standard focal length.

The FE (non-shutter) version is provided with the same optical specifications.

TECHNICAL SPECIFICATIONS

MAX. APERTURE	2.8
FOCAL LENGTH	80.5mm
DIAPHRAGM	2.8–22
ANGLE OF VIEW, DIAG./HORIZONTAL	52°/38°
NO. OF ELEMENTS	7 T*
FOCUSING RANGE	3 ft–∞ (0.9m)
WEIGHT	1 lb 2 oz (510g)
LENGTH	2 9/16 in (65mm)
FILTER	Ø 60

MODULATION TRANSFER T AS A FUNCTION OF IMAGE HEIGHT u
SLIT ORIENTATION
TANGENTIAL ------
SAGITTAL ——

WHITE LIGHT
SPATIAL FREQUENCIES
R=10, 20 AND 40 CYCLES/MM

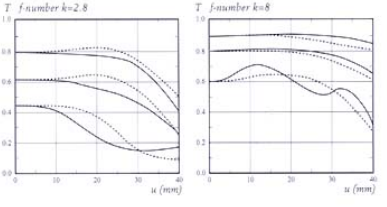


PHOTO JONAS KARLSSON

FROM A CREATIVITY POINT OF VIEW a standard lens records an image with a perspective (size relationship between fore and background) that is pretty much the way we see the scene with our eyes.
The lens is suited for almost any task in general photography, which makes it the standard lens in the Hasselblad system.
It is, therefore, the most frequently used of all Hasselblad lenses.

PLANAR CF f/3.5 100MM

DESIGNED TO ACHIEVE the optimum ratio of lens speed to focal length, the 100mm Planar is distinguished by an outstanding image rendition and freedom from distortion.

Its 100 mm focal length makes it an excellent standard lens, as well as a short telephoto in all applications where the highest image quality is required.

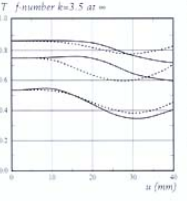
The degree of distortion correction attained is outstanding – even by Hasselblad's rigorously high standards.

TECHNICAL SPECIFICATIONS

MAX. APERTURE	3.5
FOCAL LENGTH	100.3mm
DIAPHRAGM	3.5–22
ANGLE OF VIEW,	
DIAG./HORIZONTAL	42°/30°
NO. OF ELEMENTS	5 T*
FOCUSING RANGE	3 ft–∞ (0.9m)
WEIGHT	1 lb 5 1/4 oz (605g)
LENGTH	2 15/16 in (75mm)
FILTER	Ø 60

MODULATION TRANSFER T AS A FUNCTION OF IMAGE HEIGHT H
SLIT ORIENTATION
TANGENTIAL ------
SAGITTAL ——

WHITE LIGHT
SPATIAL FREQUENCIES
R=10, 20 AND 40 CYCLES/MM



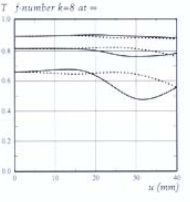


PHOTO KURT BERGLUND

THIS IS AN INDISPENSABLE LENS for all applications which require an exact reproduction of the geometry of the subject. It is, therefore, recommended as a standard lens for photography where the demands for detail recognition are extremely high, such as architectural work, aerial surveying and mapping.
It has become a favorite with photographers working at longer distances and at wide apertures who want to take full advantage of the superb quality obtainable from the high resolution films available today.
For demanding photographers this lens would be an excellent alternative to the 80 mm standard lens.

MAKRO-PLANAR CF f/4 120MM

THE DESIGNATION "MAKRO" reveals that this lens possesses an optimum image correction at close range. It is a lens to be recommended when maximum corner-to-corner quality is demanded in close-up work, especially when photographing flat copy, where high contrast is also a requirement.

This lens consists of 6 elements in 4 groups arranged almost symmetrically to the iris diaphragm. The Makro-Planar lens performs best in the region of slightly reduced imaging of the subject.

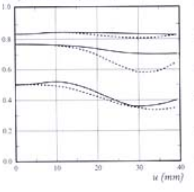
The shortest taking distance of 0.8m (reproduction ratio of 1:4.5) can be set using the helical focusing mount. By inserting the Hasselblad extension tube 32 the macro range can be increased to 1:2.

TECHNICAL SPECIFICATIONS

MAX. APERTURE	4
FOCAL LENGTH	120.9mm
DIAPHRAGM	4–32
ANGLE OF VIEW, DIAG./HORIZONTAL	37°/25°
NO. OF ELEMENTS	6 T*
FOCUSING RANGE	2 ft 7 in–∞ (0.8m)
WEIGHT	1 lb 8 1/2 oz (695g)
LENGTH	3 7/8 in (99mm)
FILTER	Ø 60

MODULATION TRANSFER T AS A FUNCTION OF IMAGE HEIGHT u
SLIT ORIENTATION
TANGENTIAL ------
SAGITTAL ——

WHITE LIGHT
SPATIAL FREQUENCIES
R=10, 20 AND 40 CYCLES/MM



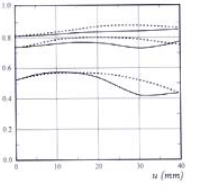


PHOTO LOIS GREENFIELD

THE MAKRO-PLANAR 120MM is a portrait as well as a macro lens.
It is specially favoured in black and white work where, for example, fine detail in facial features could be important.
While all Planars produce good quality in close-ups, the Makro-Planars (120 and 135 mm) must be the ultimate choice, producing the optimal image sharpness, contrast and color saturation possible in the medium format. It's excellent for details and also for landscapes.
In small studios many photographers use the 120 mm lens for portraiture.

MAKRO-PLANAR CF f/5.6 135MM

THE MAKRO-PLANAR f/5.6 135MM lens has no focusing ring and is designed for use with a bellows extension.

With the bellows extension, the focusing range of the lens is continuous from infinity down to 1:1, lifesize magnification.

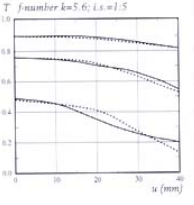
Like the 120mm Makro-Planar lens the 135mm is optimally corrected for close-up work but it is also an excellent lens for general photography where maximum image quality and freedom from distortion are required.

TECHNICAL SPECIFICATIONS

MAX. APERTURE	5.6
FOCAL LENGTH	137.1mm
DIAPHRAGM	5.6–45
ANGLE OF VIEW, DIAG./HORIZONTAL	32°/23°
NO. OF ELEMENTS	7 T*
FOCUSING RANGE	–
WEIGHT	1 lb 6 oz (625g)
LENGTH	3 7/16 in (87mm)
FILTER	Ø 60

MODULATION TRANSFER *T* AS A FUNCTION OF IMAGE HEIGHT *u*
SLIT ORIENTATION
TANGENTIAL -------
SAGITTAL ———

WHITE LIGHT
SPATIAL FREQUENCIES
R=10, 20 AND 40 CYCLES/MM



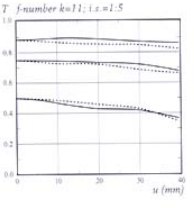


PHOTO JENS KARLSSON

WHILST DESIGNED TO PRODUCE the optimum quality at close distances, this lens is also an excellent all rounder which produces superb quality even at long distances. The photographer can take anything from infinity down to lifesize magnification by carrying just a camera, one lens and a bellows extension – no additional accessories are required.

Owing to its relatively constant correction over a wide range of image scales, the lens can be used succesfully for distance shots if it is stopped down slightly more than for a normal lens.

A unique lens with unparalleled versatility for different photographic tasks.

Sonnar CF f/4 150mm

A FOCAL LENGTH approximately twice as long as a standard lens is a good choice as a general tele lens on any camera. The 150mm Sonnar meets this requirement admirably and produces pictures of excellent sharpness and brilliance.

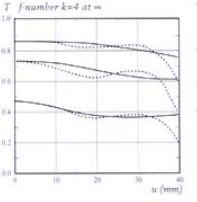
The compact design which is characteristic of all Sonnar lenses offers excellent corner-to-corner illumination of the image format.

TECHNICAL SPECIFICATIONS

MAX. APERTURE	4
FOCAL LENGTH	151.2mm
DIAPHRAGM	4–32
ANGLE OF VIEW, DIAG./HORIZONTAL	30°/21°
NO. OF ELEMENTS	5 T*
FOCUSING RANGE	4 ft 6 in–∞ (1.4m)
WEIGHT	1 lb 11 1/4 oz (785g)
LENGTH	4 in (101mm)
FILTER	Ø 60

MODULATION TRANSFER T AS A FUNCTION OF IMAGE HEIGHT u
SLIT ORIENTATION
TANGENTIAL ------
SAGITTAL ——

WHITE LIGHT
SPATIAL FREQUENCIES
R=10, 20 AND 40 CYCLES/MM



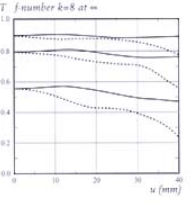


PHOTO LOIS GREENFIELD

THE FOCAL LENGTH of the 150mm Sonnar lens is long enough for outdoor or studio work, yet short enough to enable the photographer to remain close to the subject. Full length portraits can therefore be made from a distance where it is easy to communicate with the subject. The lens focuses down to 1.4m for good head and shoulder portraits.
This lens is ideally suited for portrait, wedding, fashion, or stage photography and is useful in practically any available light situation.
Many photographers consider this lens the most important second lens for their Hasselblad camera.

Sonnar CF f/4 180mm

This lens is characterized by having one of the highest optical ratios in the entire system. It is ideally positioned in between the Sonnar 150mm and 250mm lenses. From infinity to 1.55m it offers a superior image reproduction quality.

Combining this lens with the Hasselblad Converter 2XE produces a very handy 360 mm lens of very high reproduction quality.

Technical Specifications

Max. aperture	4
Focal length	179.4mm
Diaphragm	4–32
Angle of view, diag./horizontal	24°/17°
No. of elements	5 T*
Focusing range	5 ft–∞ (1.55m)
Weight	2 lbs 5 3/4 oz (1075g)
Length	5 1/16 in (128mm)
Filter	Ø 60

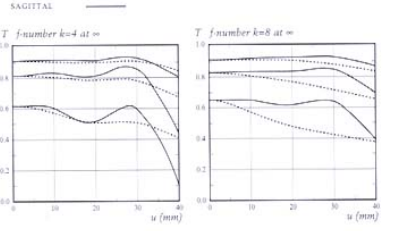


PHOTO MATTI HIETALA

THIS NEW LENS IS THE IDEAL ALTERNATIVE for fashion photographers. It provides beautiful head shots, or head and shoulder portraits from a comfortable distance without the need for close-up accessories. It gives a pleasing, flattering perspective without distorsion and the image sharpness is superb. The outstanding performance is achieved without the need for special, unstable temperature sensitive optics sometimes used by other lens manufacturers. Portrait photographers may need to soften the sharpness in certain situations by adding one or more Softar filters.

SONNAR CF f/5.6 250MM

THE PHYSICAL LENGTH of this optically-true telephoto lens is considerably shorter than its focal length. 250 mm is an excellent focal length for outdoor work, and the compactness of this model means that it can be used without a tripod.

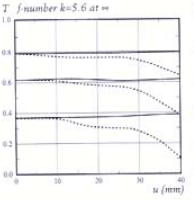
Even at full aperture the image quality of this lens is excellent and cannot be improved any further by stopping down.

TECHNICAL SPECIFICATIONS

MAX. APERTURE	5.6
FOCAL LENGTH	248.4mm
DIAPHRAGM	5.6–45
ANGLE OF VIEW,	
DIAG./HORIZONTAL	17°/12°
NO. OF ELEMENTS	4 T*
FOCUSING RANGE	8 ft 6 in–∞ (2.5m)
WEIGHT	2 lbs 3 1/4 oz (1000g)
LENGTH	6 3/16 in (164mm)
FILTER	Ø 60

MODULATION TRANSFER *T* AS A FUNCTION OF IMAGE HEIGHT *H*
SLIT ORIENTATION
TANGENTIAL ------
SAGITTAL ——

WHITE LIGHT
SPATIAL FREQUENCIES
R=10, 20 AND 40 CYCLES/MM



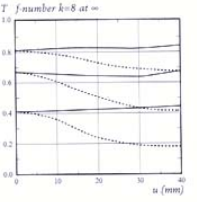


PHOTO AL GILBERT

THIS LENS IS FREQUENTLY USED for distortion-free close-up portraits, particularly in fashion photography. Its shallow depth of field makes it ideal for blurring out unwanted foreground and backgrounds, making the subject stand out impressively.
Whilst many photographers use this lens for portraiture or fashion, others find it useful for nature photography – with or without the Converter 2XE which doubles its focal length.

TELE-TESSAR CF f/5.6 350MM

WITH A LENGTH of only 22.5cm and a front diameter of only 9 cm, this tele lens is compact and handy in spite of its long focal length.

Even at full aperture the image quality is excellent for a lens of so long a focal length.

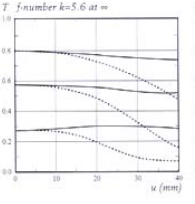
Impressive sharpness and contrast rendition make it an outstanding lens for all types of long-distance photography.

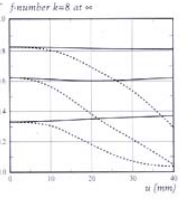
TECHNICAL SPECIFICATIONS

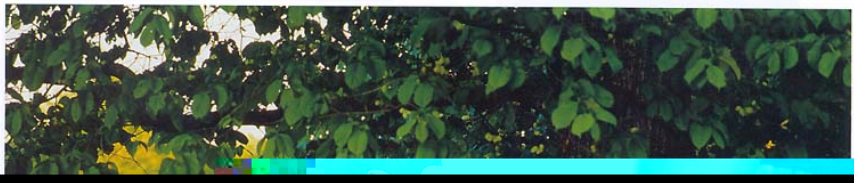
MAX. APERTURE	5.6
FOCAL LENGTH	341.2mm
DIAPHRAGM	5.6–45
ANGLE OF VIEW, DIAG./HORIZONTAL	13°/9°
NO. OF ELEMENTS	4 T*
FOCUSING RANGE	15 ft–∞ (4.5m)
WEIGHT	2 lbs 15 1/2 oz (1350g)
LENGTH	8 15/16 in (227mm)
FILTER	Ø 93

MODULATION TRANSFER T AS A FUNCTION OF IMAGE HEIGHT H
SLIT ORIENTATION
TANGENTIAL ------
SAGITTAL ——

WHITE LIGHT
SPATIAL FREQUENCIES
R=10, 20 AND 40 CYCLES/MM







TELE-APOTESSAR CF f/8 500MM

AN OPTICALLY-TRUE telephoto lens with a physical length approximately 180mm or 7 inches shorter than its focal length.

Special types of optical glass with exceptional properities have been used in the design of the Tele-Apotessar lens.

The succesful outcome has been a dramatic reduction in chromatic aberrations. Lateral color has been decreased, with the result that high-contrast subjects do not exhibit any color fringes on bright/dark edges.

Another special feature of the Tele-Apotessar lens is its internal focusing. The lens is focused by moving the rear element group whilst the front group remains stationary.

TECHNICAL SPECIFICATIONS

MAX. APERTURE	8
FOCAL LENGTH	499.3mm
DIAPHRAGM	8–64
ANGLE OF VIEW,	
DIAG./HORIZONTAL	9.0°/6.4°
NO. OF ELEMENTS	5 T*
FOCUSING RANGE	16 ft 5 in–∞ (5m)
WEIGHT	3 lbs 15 3/4 oz (1810g)
LENGTH	12 15/16 in (329mm)
FILTER	Ø 93

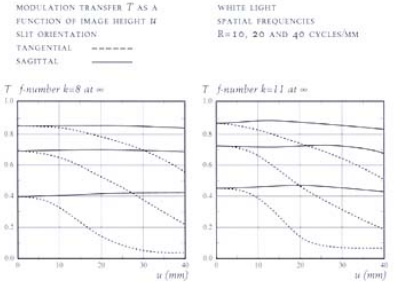


PHOTO JUDY HOLMS

THE LARGE FOCUSING RING is extremely smooth which undoubtedly results in more precise focusing.
Mounted on a tripod the centre of gravity remains virtually constant through focus changes.
This lens is an absolute essential for wild-life photographers as well as for shooting scenes under difficult conditions.

Distagon FE f/2.8 50mm (FLE)

A wide-aperture wide-angle lens without a shutter.

The 50mm Distagon FE lens has four floating front elements (FLE) that move independently from the other 5 elements when the focusing ring is turned.

The nine element lens design is extremely compact despite the speed and wide angular field. This is a particular achievement in view of the fact that – owing to the mirror motion – the distance of the last lens surface from the film must be about 35% longer than the focal length.

The optical design is such that, when focusing, the spacing between internal lens elements is changed in accordance with the law of optics (floating element). This considerably improves image quality in close-ups and makes it possible to reduce the shortest focusing distance.

The wide aperture f/2.8 is extremely fast for a wide-angle lens designed for a medium-format camera.

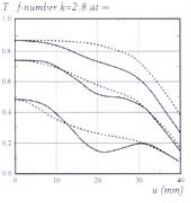
FE lenses have no shutter. The bayonet mounts are fitted with necessary coupling for automatic diaphragm operation. The FE lenses also have four contact pins providing data transmission between the lens and the 205FCC and 203FE camera body. FE lenses are distinguished by two blue lines on the left side of the aperture ring.

TECHNICAL SPECIFICATIONS

MAX. APERTURE	2.8
FOCAL LENGTH	51.7mm
DIAPHRAGM	2.8–22
ANGLE OF VIEW, DIAG./HORIZONTAL	75°/56°
NO. OF ELEMENTS	9 T*
FOCUSING RANGE	12 1/2 in–∞ (0.32m)
WEIGHT	2 lbs 11 3/4 (1240g)
LENGTH	4 7/16 in (112 mm)
FILTER	Ø 93

MODULATION TRANSFER T AS A FUNCTION OF IMAGE HEIGHT H
SLIT ORIENTATION
TANGENTIAL
SAGITTAL

WHITE LIGHT
SPATIAL FREQUENCIES
R=10, 20 AND 40 CYCLES/MM



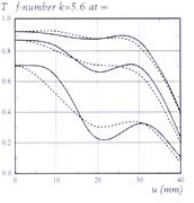


PHOTO HELMUT HORN

PHOTOGRAPHERS CAN READILY appreciate the large f/2.8 aperture on a wide-angle lens, since such lenses tend to be used more than any other for dimly lit subjects such as churches, reception halls, restaurants, museums etc. The increased image brightness on the focusing screen makes composing and focusing easy, fast and accurate. The design is remarkably compact.

PLANAR FE f/2 110MM

THIS 7-ELEMENT PLANAR lens is an advancement of the classic Planar lens developed by Zeiss, which for the first time offered an excellent anastigmatic flatness of the image field for a fairly large angular field.

This lens features a uniform sharpness across the entire image field.

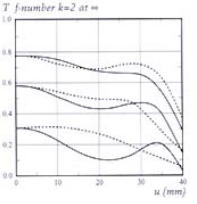
The focal length of 110mm allowed full utilization of the correction potential of this type for the relative aperture 1:2, as fewer hindrances had to be overcome in optical design.

TECHNICAL SPECIFICATIONS

MAX. APERTURE	2
FOCAL LENGTH	110.8mm
DIAPHRAGM	2–16
ANGLE OF VIEW,	
DIAG./HORIZONTAL	39°/28°
NO. OF ELEMENTS	7 T*
FOCUSING RANGE	2 ft 6 in–∞ (0.8)
WEIGHT	1 lb 10 3/4 oz (760g)
LENGTH	3 7/16 in (87mm)
FILTER	Ø 70

MODULATION TRANSFER *T* AS A FUNCTION OF IMAGE HEIGHT *H*
SLIT ORIENTATION
TANGENTIAL ------
SAGITTAL ——

WHITE LIGHT
SPATIAL FREQUENCIES
R=10, 20 AND 40 CYCLES/MM



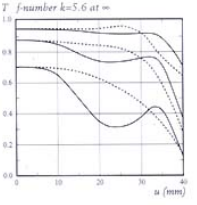


PHOTO BJÖRN RÖHSMAN

THE LARGE f/2 APERTURE produces a superbly bright image on the Acute Matte focusing screen of cameras of the new Hasselblad generation. Focusing is fast and accurate. You can photograph in low light conditions in most situations often without the need of a tripod.
This short telephoto lens is excellent for such things as portraits, working from full length to head and shoulder shots.
It is an ideal companion for 205FCC, 203FE and 201F photographers at location assignments.

SONNAR FE f/2.8 150MM

FULL UTILIZATION of the correction potential of this type of lens has resulted in superb image quality and high speed in the 150 mm Sonnar lens.

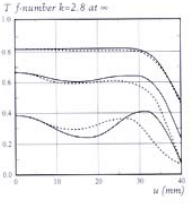
The design of the lens is extremely compact. At the infinity setting, the distance between the front lens vertex and the film plane is only as long as the focal length.

TECHNICAL SPECIFICATIONS

MAX. APERTURE	2.8
FOCAL LENGTH	151.1mm
DIAPHRAGM	2.8–22
ANGLE OF VIEW, DIAG./HORIZONTAL	29°/21°
NO. OF ELEMENTS	5 T*
FOCUSING RANGE	4 ft 6 in–∞ (1.4m)
WEIGHT	1 lb 9 oz (710g)
LENGTH	3 7/16 in (87mm)
FILTER	Ø 70

MODULATION TRANSFER T AS A FUNCTION OF IMAGE HEIGHT u
SLIT ORIENTATION
TANGENTIAL -------
SAGITTAL ———

WHITE LIGHT
SPATIAL FREQUENCIES
R=10, 20 AND 40 CYCLES/MM



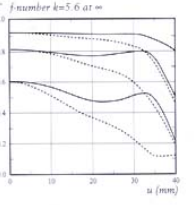


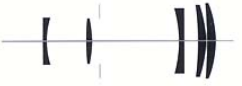
PHOTO BJÖRN RÖHSMAN

IT IS SUITED FOR sports, editorial and portrait photography and – thanks to its relatively high speed – [illegible] RANGE 12 1/2 in–∞ (0.32m)

TELE-TESSAR FE f/4 250 MM

THIS LENS IS a true telephoto lens, which is compact and relatively light.
It has an exceptionally wide aperture for a lens of this focal length. It is of five-element construction and accepts the Hasselblad series 70 filters.

Even at full aperture it provides superb image quality.

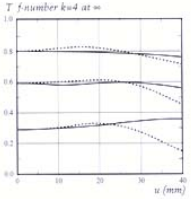


TECHNICAL SPECIFICATIONS

MAX. APERTURE	4
FOCAL LENGTH	246.3mm
DIAPHRAGM	4–32
ANGLE OF VIEW, DIAG./HORIZONTAL	18°/13°
NO. OF ELEMENTS	5 T*
FOCUSING RANGE	8 ft 3 in–∞ (2.5m)
WEIGHT	2 lbs 1/2 oz (920g)
LENGTH	6 3/16 in (157mm)
FILTER	Ø 70

MODULATION TRANSFER *T* AS A FUNCTION OF IMAGE HEIGHT *M*
SLIT ORIENTATION
TANGENTIAL ------
SAGITTAL ——

WHITE LIGHT
SPATIAL FREQUENCIES
R=10, 20 AND 40 CYCLES/MM



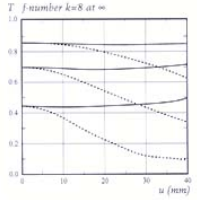


PHOTO ULF SJÖSTEDT

APPLICATIONS OF THE 250MM TELE-TESSAR f/4 lens are many. It is suitable not only for long-range photography and portraiture, but also, due to its relatively high maximum aperture, for press, sports and stage photography. This lens can give outdoor pictures a different look. The large aperture can blend the backgrounds into beautiful pictorial backdrops.

TELE-TESSAR FE f/4 350MM

THE FOCUSING RANGE extends down to 1.9m which is a remarkable achievement for a lens of this focal length. An internal focusing system ensures image quality is maintained – even at short focusing distances.

It is equipped with a tripod socket and takes the Hasselblad series 93 filters.

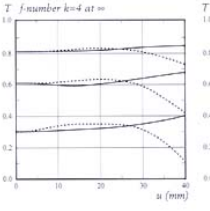
It becomes a superb 700mm f/8 telephoto lens in combination with Converter 2XE

TECHNICAL SPECIFICATIONS

MAX. APERTURE	4
FOCAL LENGTH	350.3mm
DIAPHRAGM	4–32
ANGLE OF VIEW, DIAG./HORIZONTAL	13°/9°
NO. OF ELEMENTS	8 T*
FOCUSING RANGE	6 ft 3 in–∞ (1.9m)
WEIGHT	4 lbs 6 1/2 oz (2000g)
LENGTH	10 5/16 in (262mm)
FILTER	Ø 93

MODULATION TRANSFER T AS A FUNCTION OF IMAGE HEIGHT u
SLIT ORIENTATION
TANGENTIAL ———
SAGITTAL ———

WHITE LIGHT
SPATIAL FREQUENCIES
R=10, 20 AND 40 CYCLES/MM



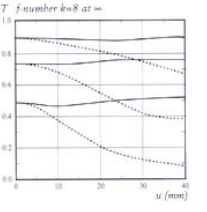


PHOTO TONI ANGERMAYER

THE MAIN APPLICATIONS for the 350 mm Tele-Tessar are in outdoor and sports photography. It is also a favourite focal length in fashion work, with its long focal length and shallow depth of field adding a new dimension to such images.

CONVERTER 2XE

THE CONVERTER 2XE is fitted between the lens and camera and doubles the focal length of the lens being used. In operation, the Converter 2XE also reduces the light reaching the film by two f/stops.

With the Converter 2XE the photographer effectively doubles his range of focal lengths. It weighs only 350 g, which makes it an ideal accessory for landscape, wildlife or sports photography.

TECHNICAL SPECIFICATIONS

MAX. APERTURE	[1])
FOCAL LENGTH	–
DIAPHRAGM	–
ANGLE OF VIEW, DIAG./HORIZONTAL	–
NO. OF ELEMENTS	7 T
FOCUSING RANGE	–
WEIGHT	12 1/2 oz (350 g)
LENGTH	2 3/4 in (70 mm)
FILTER	–

[1] REDUCES THE MAXIMUM APERTURE OF THE LENS USED BY TWO F/STOPS.

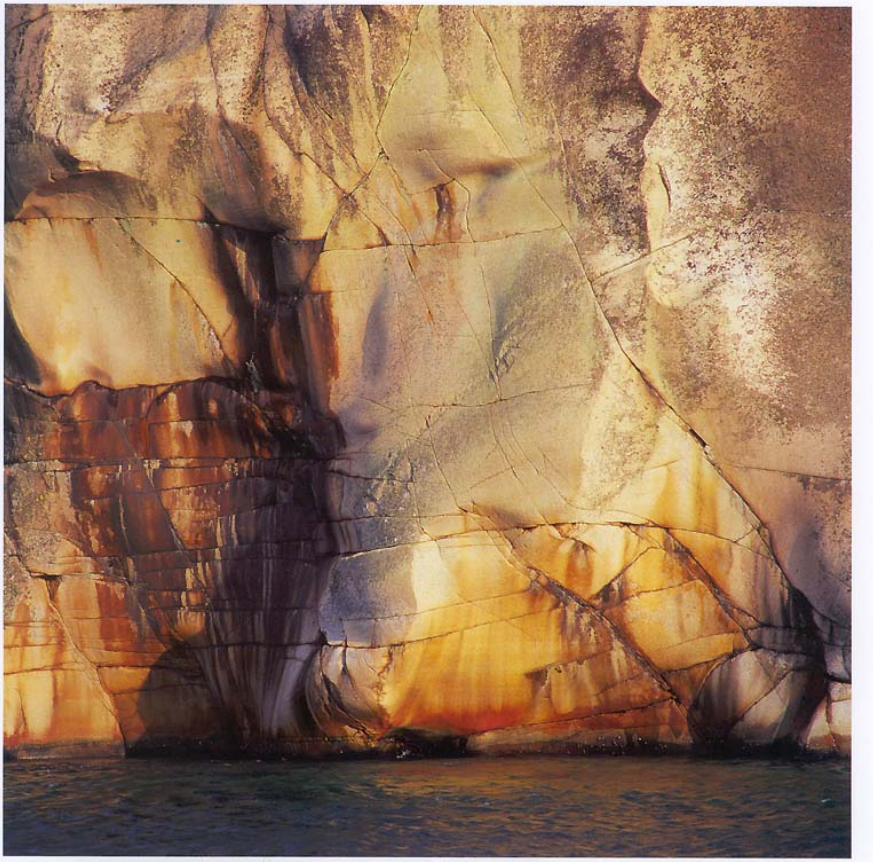


PHOTO JAN GRAHN

THE CONVERTER 2XE offers an excellent solution for extending the range of Hasselblad lenses and for adding those seldom-used focal lengths in a relatively inexpensive fashion and without sacrificing image quality.
The Converter 2XE will also be appreciated by travelling photographers who like to carry a minimum of equipment yet maintain lens versatility.

PC-Mutar 1.4x

The PC-Mutar 1.4x features a vertical shift facility for perspective control, e.g. for avoiding converging lines.

It is optimized for use with the Distagon 40mm. This combination results in a PC lens with a maximum aperture of f/5.6, a focal length of 56mm and a usable image circle diameter of 106mm.

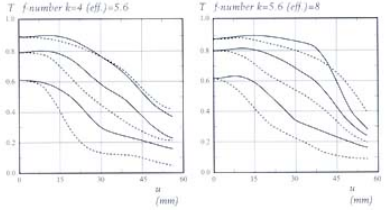
The configuration provides superb image quality even at full lens aperture.

It can be used with any lens between 40 and 100mm.

PC MUTAR 1.4X WITH 40MM DISTAGON T*F/4

MODULATION TRANSFER *T* AS A FUNCTION OF IMAGE HEIGHT *u*
SLIT ORIENTATION
TANGENTIAL ------
SAGITTAL ——

WHITE LIGHT
SPATIAL FREQUENCIES
R=10, 20 AND 40 CYCLES/MM



TECHNICAL SPECIFICATIONS

MAX. APERTURE	1)
FOCAL LENGTH	–
DIAPHRAGM	–
ANGLE OF VIEW, DIAG./HORIZONTAL	–
NO. OF ELEMENTS	5 T*
FOCUSING RANGE	–
WEIGHT	1 lb 1 oz (480g)
LENGTH	1 1/2 in (39mm)
FILTER	–

1) REDUCES THE MAXIMUM APERTURE OF THE LENS USED BY ONE F/STOP.

PHOTO JENS KARLSSON

THE SHIFT RANGE of this converter is ± 16 mm, and a scale allows repeatable settings. It can be used with lenses from 40 to 100 mm focal length without any vignetting. This configuration provides superb image quality even at full lens aperture.
The PC-Mutar 1.4x ensures that professional and distortion-free results can be obtained when using Hasselblad medium format cameras for such subjects as interior or exterior architectural photography, still-life advertising or promotional shots as well as many other subjects which require perfectly straight and parallel verticals.

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